Dkt. 26656U

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: GOUAISBAULT, et al	Group Art Unit: 1615 Examiner: Helm, Caralynne
Serial No.: 10/527,745	
Filed: March 14, 2005	

For: MAKE-UP COMPOSITIONS FIBERS, PARTICULARLY EYELASHES

Honorable Commissioner for Patents and trademarks
PO Box 1450
Alexandria, VA 22313-1450

Sir:

I, the undersigned, Jean-Louis Grossiord, a French citizen residing at 9 square Pierre Ronsard, 91250 Saint Germain les Corbeil

solemnly declare and state as follows:

1) I graduated:

- as Masters in Theoretical Physics from University of Paris VI in 1968;
- as PhD in Theoretical Physics from University of Paris VI in 1970 and
- as PhD in Pharmaceutical sciences from University of Montpellier 1986.

And I have been professor at the University of Paris-Sud (Paris XI) since 1972.

2) Since 2000, I have been working in the Laboratory of Pharmaceutical Physics, Research Unity UMR 8612 at Université Paris-Sud (Paris XI), Center for Pharmaceutical Researches.

3) I have published many articles in measuring the Rheology of viscous compositions, notably through measure of viscosity, see Enclosure I.

4) I have read and understood the U.S. patent application n° 10/527,745 filed by Gouaisbault et al.

5) I have also read and understand the office action issued by the Examiner Caralynne Helm on October 28, 2008, and the Weijermars' article in Naturwissenschaften (1986 pages 73:33-34) cited therein.

6) In view of them, I am stating and declaring as follows:

6-1. It is apparent for one skilled in the Art that the viscoelastic tests which have been performed by Gouaisbault et al. reported in the above referenced patent application are oscillatory and are therefore the most potent and complete of the rheological tests, thereby defining a complex viscosity noted η^* which is from time to time also named viscoelastic viscosity to well distinguish it from the steady flow viscosity η_0. This η^* is accurately mentioned in ordinate on Figure 2.

Accordingly, η^* is the modulus of a complex value the real part of which is noted η' which is often also confusingly named dynamic viscosity.

6-2 Weijermars reported in Naturwissenschaften 73 986 pages 33 and 34, the steady flow of SGM-36 polymer, this provides a viscosity which is sometimes named dynamic viscosity. This viscosity value highly depends from the shear conditions.

For a shear-thinning product like SGM 36, it can be defined an area of very low shear for which the viscosity is constant. It is often named viscosity of the first Newtonian region which is noted η_0.

In fact, the name of dynamic viscosity is primarily justified by the fact that it is defined a kinematic viscosity ν which is equal to the dynamic viscosity η_0 (Newtonian viscosity) divided by the volumic mass or density ρ of the sample, namely :

$$\nu = \frac{\eta_o}{\rho}$$

I further observe that on table I of Weijermars, page 34, he gives a **Newtonian** viscosity of 5×10^4 Pa.s.

6-3. From the above, I am to conclude that there is a possible confusion between η_0, η' and η^* which all have the same unit expressed as Pa.s in the International system of units.

But, these units have very different meanings, and they can not be mistaken.

The viscoelastic units η' and η^* depend from the frequency implemented in the oscillatory test.

It has nevertheless to be noted that η' and η^* converge towards flowing viscosity η_0 when the oscillatory frequency is lowered towards 0.

It is this asymptotic behavior provided by the infinitely low frequency limit, which enables to link all these three units.

As a consequence, it is not surprising that viscosity η_0 or Newtonian viscosity, given by Weijermars in its article in Naturwissenschaften 73 1986, pages 34, for SGN 36, is reported to be equal to 5.10^4 Pa.s, higher than the complex viscosity of η^* reported on figure 2 of the above referenced US patent application US 10/527.745 of Gouaisbault et al. as a value of a little bit less than 10^4 Pa.s, namely 6.4×10^3 Pa.s, noting that the ordinate in Fig 2 is expressed as Logarithmic scale.

This difference is perfectly coherent with the fact that the oscillatory testing is

performed at a frequency of one Hz which is far from the indefinitely low frequencies field.

It is further noted on page 5, lines 9-11 of the same GOUAISBAULT specification N°10/527,745 that the viscosity curves translate measurements made in dynamic mode and represent a deformation on the abscissa and a dynamic viscosity along the ordinate.

Here, it should be again indicated that the dynamic viscosity is η^*.

I further note that on Figure 2 of the same GOUAISBAULT application N° 10/527,745, the deformation γ given in abscissa has no unit, and the mention of [Hz] is a clerical obvious error for one Skilled in the Art.

In view of this, the definition of Fig 2 on page 9, line 21 should be completed to read:

"Fig 2 : the oscillatory viscosity (η^*) curve of the same polymer SGM36®, showing the deformation gamma in abscissa in oscillation mode and the oscillatory viscosity η^* in Logarithmic scale in ordinate."

In conclusion, there is no contradiction between the complex **dynamic** viscosity η^* given in the GOUAISBAULT N°10/527,745 patent application specification and the **Newtonian** viscosity values given by Weijermars in Naturwissenschaften 73-1986, pages 33-34.

7) I further declare that all statements made by me herein are true and all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and may jeopardize the validity of the application

or any patent issued thereon.

Executed on April 10, 2009

JL Grossiord

ENCLOSURE I:
LIST OF MY PUBLICATIONS

ENCLOSURE I :

PROFESSOR GROSSIORD PUBLICATIONS

1- Viscoelastic properties of paracristalline phases appearing in water-surface agent-oil diagrams.
A.M. Orecchioni, G. Couarraze, J.L. Grossiord, M. Seiller, F. Puisieux.
Intern. J. of Cosm. Sci., 6, 131, 1984.

2- Determination of molar mass polydispersity index from dynamic rheological measurements.
G. Couarraze, J.L. Grossiord, F. Puisieux.
Rheol. Acta, 25, 494, 1986.

3- Etude de la polydispersité par l'analyse des propriétés rhéologiques dynamiques. Application à la détermination de l'indice de polydispersité des polymères liquides enchevêtrés.
G. Couarraze, J.L. Grossiord.
C.R.A.S., 302, série II n°8, 1986.

4- Détermination rhéologique de l'indice de polydispersité de polymères liquides enchevêtrés de distribution étroite.
J.L. Grossiord, G. Couarraze.
C.R.A.S., 302, série II n°9, 1986.

5- Study of molar mass distribution of high weight molecular mass polymeric liquids from the analysis of some rheological properties. Application to narrow distributions.
J.L. Grossiord, G. Couarraze.
Europ. J. of Pol., Vol. 24 n°3, 259, 1988.

6- New methods of determination of the molar mass distribution from rheological measurements.
J.L. Grossiord, G. Couarraze, B. Leclerc.
Rheol. Acta, 27, 487, 1988.

7- Etude, par des méthodes dynamiques, du comportement rhéologique de phases paracristallines lyotropes à symétrie hexagonale.
F. Laurençon, A.M. Orecchioni, G. Couarraze, J.L. Grossiord.
Bull. Soc. Chim. Fr, n°4, 654, 1988.

8- Rheological Study of a Thermoreversible Morphine Gel.
G. Dumortier, J.L. Grossiord, M. Zuber, G. Couarraze, J.C. Chaumeil.
Drug Development and Industrial Pharmacy, 17(9), 1255-1265, 1991.

9- Méthodes de caractérisations rhéologiques. Applications aux polymères.
J.L. Grossiord.
Entropie, 159, 53, 1991.

10- Significance of Rheological Analysis in Studies on W/O/W Multiple Emulsions.
J.L. Grossiord, M. Seiller, F. Puisieux.
Rheol. Acta, 32, 168-180, 1993.

11- Rheology: How to characterize and to predict the evolution of W/O/W multiple emulsions.
I. Terrisse, M. Seiller, A. Rabaron, A. Magnet, C. Le Hen-Ferrenbach, J.L. Grossiord.
Int. J. of Cosmetic Sc, 15, 53-62, 1993.

12- Applications of Rheological Analysis to W/O/W Multiple Emulsions: Effect of the Incorporation of a Coemulsifier.
I. Terrisse, A. Magnet, C. Le Hen-Ferrenbach, M. Seiller, J.L. Grossiord.
Colloids and Surfaces, 91, 121-128, 1994.

ENCLOSURE I :

13- Study by differential scanning calorimetry, rheometry and electroconductimetry of Mass Transfers at subambiant and ambiant temperatures in multiple water/oil/water emulsions entrapping MgSO4.
S. Raynal, I. Pezron, L. Potier, D. Clausse, J.L. Grossiord, M. Seiller.
Colloids and Surfaces, 91, 191-205, 1994.
14- Comparative Analysis of the Flow Properties of Hydroxypropylmethylcellulose.
M. Iza, J.L. Grossiord
Pharmeuropa, Vol 9, N° 3, 581-584, Septembre 1997.
15- Hydrogels of poly(ethylene glycol): mechanical characterization and release of a model drug.
M. Iza, G. Stoianovici, L. Viora, J.L. Grossiord, G. Couarraze.
J. of Controlled Release, 52, 41-51, 1998.
16- Rheological analysis of highly concentrated W/O Emulsions.
N. Jager-Lezer, J.F. Tranchant, V. Alard, C. Vu, P.C. Tchoreloff, J.L. Grossiord.
Rheol. Acta, 37,129-138, 1998.
17- Rheological behavior of a lamellar lyotropic phase as a function of the substrate nature.
N. Jager-Lezer, J.F. Tranchant, V. Alard, J. Doucet and J.L. Grossiord
J. of Rheology, Issue 42, n° 2, 417-432, 1998.
18- Influence of the chemical nature of various geometries on the rheological behavior of a lamellar lyotropic phase.
N. Jager-Lezer, Y. Feutelais, J. Doucet, J.F. Tranchant, V. Alard, A. Baszkin and J.L. Grossiord
J. of Rheology., 43 (5), 1067-1081, 1999.
19- W/O/W Multiple Emulsions Submitted to a Linear Shear Flow : Correlation between Fragmentation and Release.
V. Muguet, M. Seiller, G. Barrat, D. Clausse, J.-P. Marty, and J.-L. Grossiord.
J. of Colloid and Interface Science, 218, 335-337, 1999.
20- Influence of the fragmentation of multiple globules on the rheological properties of W/O/W multiple emulsions.
V. Muguet, M. Seiller, G. Barratt, N. Hebel, J.-P. Marty, and J.-L. Grossiord.
J. of Rheology, 44(2), 379-395, 2000.
21- Stability Study of W/O/W Viscosified Multiple Emulsions.
O. Ozer, V. Muguet, E. Roy, J.-L. Grossiord, M. Seiller.
Drug development and Industrial Pharmacy, 26 (11), 1185-1189, 2000.
22- Formulation of thixotropic systems for the filling of capsules at the room temperature.
P. Lombardin, M. Seiller, E. Leverd, E. Goutay and J.-L. Grossiord.
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23- Formulation of shear rate sensitive multiple emulsions.
V. Muguet, M. Seiller, G. Barratt, O. Ozer, J.-P. Marty, and J.-L. Grossiord.
J. of Controlled Release, 70 (2001), 37-49.
24- Rheological analysis of concentrated W/O emulsions
A. Ponton, P. Clément, J.-L. Grossiord
J. of Rheology, 45 (2), 521-526, 2001.
25- A new thermosensitive W/O/W multiple emulsion.
L. Olivieri, M. Seiller, L.E. Bromberg, E.S. Ron, P. Couvreur, and J.L. Grossiord
Pharmaceutical Research, Vol. 18, No 5, 689-693, 2001
26- Effect of dispersion stirring speed on the granulometric and rheological properties of carbomer dispersions and gels.
L. Baudonnet, D. Pere, P. Michaud, J.-L. Grossiord, F. Rodriguez
J. Dispersion Sci. and Technol.,23 n°4, 499-510, 2002.

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27- Formulation of thixotropic systems for the filling of capsules at the room temperature. In-vitro release of active substances.
P. Lombardin, E. Leverd, E. Goutay, J. Bougaret, J.-L. Grossiord, M. Seiller.
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28- Optimization of the release under shear of a new thermally reversible W/O/W multiple emulsion.
L. Olivieri, M. Seiller, L.E. Bromberg, M. Besnard, T-N-L Duong, and J.L. Grossiord
Journal of Controlled release, 88, 401-412, 2003.
29- Influence of methyl-□-cyclodextrin and liposomes on rheological properties of Carbopol 974P NF.gels
L. Boulmedarat, J.L. Grossiord,, E. Fattal, A. Bochot
International Journal of Pharmaceutics, 254, 59-64, 2003
30- Effects of dispersion stirring speed on the particle size distribution and rheological properties of three carbomers
L. Baudonnet, J.-L Grossiord, F. Rodriguez
J. of Dispersion Science and Technology, 25 (2), 2004, 183-192
31- Comparative yield stress determination for pure and interstratified smectite clays.
S. Laribi, M. Fleureau, J.L. Grossiord, N.K. Ariguib
Rheologica Acta, Vol. 44, N°3, 262-269, 2005
32- Rheological properties of three different vitamin D ointments and their clinical perception by patients with mild to moderate psoriasis
Marty J.P., Lafforgue C., Grossiord J.L., Soto P.
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33- Effect of pH on rheological behavior of pure and interstratified smectite clays
S. Laribi, M. Fleureau, J.L. Grossiord, N.K. Ariguib
Clays and clay minerals, 54, N°1, 2006, 29-37
34- Modulation of the rheological properties and mucoadhesive properties of thermosensitive poloxamer-based hydrogels intended for the rectal administration of quinine.
A.A. Koffi, F. Agnely, G. Ponchel, , J.-L Grossiord
European Journal of Pharmaceutical Science, 27 (2006) 328-335
35- Rheological properties of ointments and clinical perception by psoriatic patients
Marty J.P., Lafforgue C., Grossiord J.L., Soto P.
British Journal of Dermatology, 1155, 34-35, Suppl. 1, 2006
36- Rheological and adhesive properties of new thermo responsive acrylic polymers.
G. Bonacucina, G. Ponchel, C. Ringard, G.F. Palmieri, and J.-L. Grossiord.
Journal of Drug Delivery, Science and Technology, 16 (1), 59-64, 2006
37- Physico-Chemical Characterizations of Tunisian Organophilic bentonites.
H. Othmani-Assmann, M. Benna-Zayani, S. Geiger, N. Kbir-Ariguib, M. Trabelsi-Ayadi, N.-E. Ghermani, J.-L. Grossiord
J. Phys. Chem. C 2007, 111, 10869-10877
38- Modelisation and Characterisation of diluted and concentrated Water-in-Crude Oil emulsion: comparison with classical behaviour.
Quintero C.G., Noïk C., Dalmazzone C., Grossiord J.-L.
Rheologica Acta, 47, 4, 417-424, 2008.
39- Modulation of the release from a W/O/W multiple emulsion by controlling the viscoelastic properties of the two interfaces.
A. Djedour, F. Boury, J.-L. Grossiord
Journal of Drug Delivery, Science and Technology, accepté pour publication, 2009.

ENCLOSURE I :

PROFESSOR GROSSIORD BOOKS

1- Initiation à la rhéologie (1ère édition).
G. Couarraze, J.L. Grossiord.
Tec et Doc (Librairie Lavoisier), Paris, 1983, 219 p.
2- Initiation à la Rhéologie (2ème édition modifiée et complétée).
G. Couarraze, J.L. Grossiord.
Tec et Doc (Librairie Lavoisier), Paris, 1991, 272 p.
3- Initiation à la Rhéologie (3ème édition modifiée et complétée).
G. Couarraze, J.L. Grossiord.
Tec et Doc (Librairie Lavoisier), Paris, 2000, 300 p.
4- Comprendre la rhéologie: de l'écoulement du sang à la prise du béton.
Ouvrage coordonné par P. Coussot et J.L. Grossiord.
EDP Sciences, Paris, 2002, 221 p.
Mention spéciale du prix Roberval (Enseignement supérieur), 2002
5- Initiation à la Rhéologie (réimpression actualisée).
G. Couarraze, J.L. Grossiord.
Tec et Doc (Librairie Lavoisier), Paris, 2006, 300 p.